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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/706,772

11/12/2003

Kohei Asada

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530 7590 10/30/2007
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EXAMINER

SAUNDERS JR, JOSEPH

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

10/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/706,772 | Applicant(s) ASADA ET AL. | |
| | Examiner Joseph Saunders | Art Unit 2615 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>5-15-06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is the initial office action based on the communications filed December 17, 2003. Claims 1 – 4 are currently pending and considered below.

Drawings

2. Figures 11 – 16 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: It is believed that on page 6 line 17 the Applicant intended to refer to Fig. 13 and not Fig. 12. Also on page 12 line 19, "Pcn1 to Pcnm" should be corrected to "Pnc1 to Pncm".

Appropriate correction is required.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the specification.

Double Patenting

5. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

6. Claims 1 – 4 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 2 and 11 of copending Application No. 10/533,612. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim1: Application No.10/533,612 discloses a method of reproducing an audio signal, comprising the steps of: supplying an audio signal to a plurality of digital filters ("supplying an audio signal to each of a plurality of digital filters," claim 1), and producing a respective plurality of filtered; generating a sound field inside a closed space by supplying the plurality of filtered signals from the plurality of digital filters to a respective plurality of speakers constituting a speaker array signals ("supplying outputs

from the plurality of digital filters to a plurality of speakers arranged in a speaker array to form a sound field," claim 1); and supplying sounds outputted from the speaker array to a location of a listener inside a sound field after being reflected by a wall surface ("after it is reflected by a wall surface," claim 2) of the closed space with a sound pressure greater than a sound pressure at a peripheral location ("a low-pass characteristic will be given to a synthesis response of the audio signal at a second point in the sound field," claim 1) in the closed space by setting predetermined respective delay times for said plurality of digital filters, respectively ("setting a predetermined delay time," claim 1).

Claim 2: Application No. 10/533,612 further discloses the method of reproducing an audio signal according to claim 1, wherein the sound pressure directly arriving at said listener from said speaker array is reduced by setting predetermined respective amplitudes in said plurality of digital filters ("adjusting an amplitude characteristic," claim 1).

Claims 3 and 4: Application No. 10/533,612 also discloses in claim 11 an apparatus performing the method disclosed above and therefore, claim 11 also discloses the same invention as claims 3 and 4.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1 – 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Bienek et al. (WO 02/078388 A2), hereinafter Bienek.

Claim 1: Bienek discloses a method of reproducing an audio signal (method and apparatus to create a sound field), comprising the steps of: supplying an audio signal (input signal 101) to a plurality of digital filters (delay means 1508 or adjustable digital filter 1512 can also be arranged to apply delays), and producing a respective plurality of filtered signals; generating a sound field inside a closed space by supplying the plurality of filtered signals from the plurality of digital filters to a respective plurality of speakers constituting a speaker array (Description of Figure 6, Pages 18 – 19); and supplying sounds outputted from the speaker array to a location of a listener inside a sound field after being reflected by a wall surface of the closed space with a sound pressure greater than a sound pressure at a peripheral location in the closed space by setting predetermined respective delay times for said plurality of digital filters, respectively (Third Sound Field, Pages 21 – 22 and Figure 7C and Figure 8).

Claim 2: Bienek discloses the method of reproducing an audio signal according to claim 1, wherein the sound pressure directly arriving at said listener from said speaker array is reduced by setting predetermined respective amplitudes in said plurality of digital filters (Third Aspect of the Invention, Pages 26 – 27 and Figure 11).

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Claim 3: Bienek discloses an apparatus for reproducing an audio signal (method and apparatus to create a sound field), comprising: a plurality of speakers (output transducer 104) constituting a speaker array (array 105); and a plurality of digital filters (delay means 1508 or adjustable digital filter 1512 can also be arranged to apply delays) to which an audio signal (input signal 101) is supplied for producing a plurality of filtered signals, wherein a sound field is generated inside a closed space by supplying the plurality of filtered signals from said plurality of digital filters to said plurality of speakers, respectively (Description of Figure 6, Pages 18 – 19); and wherein sounds outputted from the speaker array are supplied to a location of a listener inside the sound field after being reflected by a wall surface of the closed space with a sound pressure greater than a sound pressure at a peripheral location by setting predetermined respective delay times for said plurality of digital filters in the closed space (Third Sound Field, Pages 21 – 22 and Figure 7C and Figure 8).

Claim 4: Bienek discloses the apparatus for reproducing an audio signal, according to claim 3, wherein a sound pressure directly arriving at said listener from said speaker array is reduced by setting predetermined respective amplitudes in said plurality of digital filters (Third Aspect of the Invention, Pages 26 – 27 and Figure 11).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Saunders whose telephone number is (571)

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270-1063. The examiner can normally be reached on Monday - Thursday, 9:00 a.m. - 4:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JS
October 13, 2007



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SUPERVISORY PATENT EXAMINER